AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A dispersion-compensated optical fiber, ~~wherein: in at least~~ which, when operated in a wavelength ~~which is selected~~range from 1.53 μm to 1.63 μm, exhibits the following:

a bending loss is 5 dB/m or lower ~~when it is would by~~ with a 20 mm bending diameter,

a wavelength dispersion is -120 ps/nm/km or lower,

an absolute value of the wavelength dispersion per a unit loss is 200 ps/nm/dB or higher,

a cut-off wavelength for used length and used condition is 1.53 μm or lower,

an outer diameter of a cladding is 80 μm to 100 μm,

an outer diameter of a coating is 160 μm to 200 μm, and

a viscosity of a surface of a coating resin is 10 gf/mm or lower.

2. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to Claim 1 wherein the viscosity of the surface of the coating resin of the dispersion-compensated optical fiber is 1 gf/mm or lower.

3. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to Claim 1 ~~or 2~~ wherein said coating includes at least

~~a Young's modulus of~~ a first coating layer ~~which is~~ disposed on an outer periphery of the cladding ~~is~~, having a Young's modulus of 0.15 kgf/mm^2~~,~~ and a thickness of ~~the first coating layer is~~ about 20 μm to 30 μm, and

~~a Young's modulus of~~ a second coating layer ~~which is~~ disposed on an outer periphery of the first coating layer ~~is~~, having a Young's modulus of 50 kgf/mm^2, and a thickness of ~~the second coating layer is~~ about 15 μm to 30 μm.

4. (currently amended): A dispersion-compensated optical fiber ~~according to any one of Claim 1 to 3~~, comprising ~~at least:~~

a center core section~~,~~;

~~a core which is formed by~~ an intermediate core section ~~and~~, disposed on the outer periphery of the center core section;

a ring core section, disposed on the outer periphery of the intermediate core section; and

a cladding ~~which is~~, disposed on ~~its~~ the outer periphery of the ring core section;~~,~~

wherein

~~a~~ the refractive index ~~difference~~ of the center core section ~~with reference to~~ is about 1.6% to 2.6% greater than that of the cladding ~~is +1.6% to +2.6%~~;

~~a~~ the refractive index ~~difference~~ of the intermediate core section ~~with reference to~~ is about 0.30% to 1.4% smaller than that of the cladding ~~is -0.30% to -1.4%~~;

the ~~a~~ refractive index ~~difference~~ of the ring core section ~~with reference to~~ is about 0.30% to 1.0% greater than that of the cladding ~~is +0.30% to +1.0%~~;

the ~~a~~ ratio of ~~a~~ the outer radius of the intermediate core section ~~with reference~~ to ~~a~~ the outer radius of the center core section is about 1.5 to 3.5;

the ~~a~~ ratio of ~~a~~ the outer radius of the intermediate core section ~~with reference~~ to ~~a~~ the outer radius of the ring core section is about 1.2 to 2.0, and

the ~~a~~ radius of the core is about 4 μm to 8 μm.

5. (currently amended): dispersion-compensated optical fiber ~~according to any one of Claim 1 to 3~~, comprising ~~at least~~:

a ~~core which is formed at least the~~ center core section ~~and~~;

~~the~~ an intermediate core section, disposed on the outer periphery of the center core section; and

a cladding, formed on the outer periphery of the intermediate core section;

wherein

~~a~~ the refractive index ~~difference~~ of the center core section ~~with reference to~~ is about 1.6% to 2.6% greater than that of the cladding ~~is +1.6% to +2.6%~~;

~~a~~ the refractive index ~~difference~~ of the intermediate core section ~~with reference to~~ is about 0.30% to 1.4% smaller than that of the cladding ~~is -0.30% to -1.4%~~;

~~a~~ the ratio of ~~a~~ the outer radius of the intermediate core section ~~with reference~~ to ~~a~~ the outer radius of the center core section is about 1.5 to 3.5;

~~a~~ the ratio of ~~a~~ the outer radius of the intermediate core section ~~with reference~~ to ~~a~~ the outer radius of the ring core section is about 1.2 to 2.0~~,~~; and

~~a~~ the radius of the core is about 4 μm to 8 μm.

6. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to any one of ~~Claim~~ claims 1 ~~to 5~~, 2, 3, and 10, wherein, when operated in ~~at least~~ a wavelength ~~which is selected~~range from 1.53 μm to 1.57 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0026 nm^{-1} to 0.010 nm^{-1}.

7. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to any one of ~~Claim~~ claims 1 ~~to 5~~, 2, 3, and 10, wherein, when operated in ~~at least~~ a wavelength ~~which is selected~~range from 1.53 μm to 1.57 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0026 nm^{-1} to 0.041 nm^{-1}.

8. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to any one of ~~Claim~~ claims 1 ~~to 5~~, 2, 3, and 10, wherein, when operating in ~~at least~~ a wavelength ~~which is selected~~range from 1.57 μm to 1.63 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0022 nm^{-1} to 0.010 nm^{-1}.

9. (currently amended): ~~A~~ The dispersion-compensated optical fiber according to any one of ~~Claim~~ claims 1 ~~to 5~~, 2, 3, and 10, wherein, when operating in ~~at least~~ a wavelength ~~which is selected~~range from 1.57 μm to 1.63 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0022 nm^{-1} to 0.0035 nm^{-1}.

10. (new): The dispersion-compensated optical fiber according to claim 2, wherein:

a Young's modulus of a first coating layer, which is disposed on an outer periphery of the cladding is about 0.15 kgf/mm^2,

a thickness of the first coating layer is about 20 μm to 30 μm,

a Young's modulus of a second coating layer, which is disposed on an outer periphery of the first coating layer, is about 50 kgf/mm^2, and

a thickness of the second coating layer is about 15 μm to 30 μm.

11. (new): The dispersion-compensated optical fiber according to claim 4, wherein, when operated in a wavelength range from 1.53 μm to 1.63 μm:

a bending loss is about 5 dB/m or lower when it is wound by a 20 mm bending diameter,

a wavelength dispersion is about -120 ps/nm/km or lower,

an absolute value of the wavelength dispersion per a unit loss is about 200 ps/nm/dB or higher,

a cut-off wavelength for used length and used condition is about 1.53 μm or lower,

an outer diameter of a cladding is about 80 μm to 100 μm,

an outer diameter of a coating is about 160 μm to 200 μm, and

a viscosity of a surface of a coating resin is about 10 gf/mm or lower.

12. (new): The dispersion-compensated optical fiber according to claim 4, wherein the viscosity of the surface of the coating resin of the dispersion-compensated optical fiber is about 1 gf/mm or lower.

13. (new): The dispersion-compensated optical fiber according to claim 4, wherein:

a Young's modulus of a first coating layer, which is disposed on an outer periphery of the cladding, is about 0.15 kgf/mm^2,

a thickness of the first coating layer is about 20 μm to 30 μm,

a Young's modulus of a second coating layer, which is disposed on an outer periphery of the first coating layer, is about 50 kgf/mm^2, and

a thickness of the second coating layer is about 15 μm to 30 μm.

14. (new): The dispersion-compensated optical fiber according to claim 5, wherein, in a wavelength range from 1.53 μm to 1.63 μm:

a bending loss is about 5 dB/m or lower when it is wound by a 20 mm bending diameter,

a wavelength dispersion is about -120 ps/nm/km or lower,

an absolute value of the wavelength dispersion per a unit loss is about 200 ps/nm/dB or higher,

a cut-off wavelength for used length and used condition is about 1.53 μm or lower,

an outer diameter of a cladding is about 80 μm to 100 μm,

an outer diameter of a coating is about 160 μm to 200 μm, and

a viscosity of a surface of a coating resin is about 10 gf/mm or lower.

15. (new): The dispersion-compensated optical fiber according to claim 5, wherein the viscosity of the surface of the coating resin of the dispersion-compensated optical fiber is about 1 gf/mm or lower.

16. (new): The dispersion-compensated optical fiber according to claim 5, wherein:

a Young's modulus of a first coating layer, which is disposed on an outer periphery of the cladding, is about 0.15 kgf/mm^2,

a thickness of the first coating layer is about 20 μm to 30 μm,

a Young's modulus of a second coating layer which is disposed on an outer periphery of the first coating layer is about 50 kgf/mm^2, and

a thickness of the second coating layer is about 15 μm to 30 μm.

17. (new): The dispersion-compensated optical fiber according to any one of claims 4, 5, and 11-16, wherein, in a wavelength range from 1.53 μm to 1.57 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0026 nm^{-1} to 0.010 nm^{-1}.

18. (new): The dispersion-compensated optical fiber according to any one of claims 4, 5, and 11-16, wherein, in a wavelength range from 1.53 μm to 1.57 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0026 nm^{-1} to 0.041 nm^{-1}.

19. (new): The dispersion-compensated optical fiber according to any one of claims 4, 5, and 11-16, wherein, in a wavelength range from 1.57 μm to 1.63 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0022 nm^{-1} to 0.010 nm^{-1}.

20. (new): The dispersion-compensated optical fiber according to any one of claims 4, 5, and 11-16, wherein, in a wavelength range from 1.57 μm to 1.63 μm, a quotient, which is obtained by dividing the dispersion slope by the wavelength dispersion, is about 0.0022 nm^{-1} to 0.0035 nm^{-1}.